

CLAIMS

What is claimed is:

- Sub B17*
1. A diagnostic tool for communicating with a vehicular electronic control unit, said diagnostic tool comprising:
    - 5 a microprocessor for executing an operating system and one or more diagnostic application programs;
    - a non-volatile storage device, in the form of at least one of internal and external memory, coupled to said microprocessor; and
    - 10 a user interface configured for remote updating of at least one of a diagnostic application program and memory of said tool.
  2. The diagnostic tool of claim 1, wherein said user interface of said tool is equipped with external ports usable for connecting communication and peripheral devices.
  - 15 3. The diagnostic tool of claim 1, wherein said user interface includes a flash card port for supplying at least one of new application programs and upgrades to be loaded into said non-volatile storage device of said tool.
  - 20 4. The diagnostic tool according to claim 3, wherein said tool memory and one or more resident diagnostic application programs are updated using a flash card.



5. The diagnostic tool of claim 1, wherein said user interface includes a PCMCIA card port for supplying modem, Ethernet and wireless communications.

5 6. The diagnostic tool of claim 1, wherein said user interface includes a smart card port for controlling authorized access of diagnostics application programs.

7. The diagnostic tool of claim 1, wherein said user interface includes one or more serial communication port usable to communicate with a personal computer.

10 8. The diagnostic tool of claim 1, wherein said user interface includes an infrared communication area used for infrared communication with a desired peripheral device.

15 9. The diagnostic tool of claim 1, wherein said user interface includes a universal serial bus port for communicating with at least one of a keyboard, printer and memory hard drive.

20 10. The diagnostic tool of claim 1, wherein said user interface includes a hardware interface module port for enabling implementation of cartridge-contained software application programs.

11. The diagnostic tool of claim 10, wherein said user interface includes a hardware interface module port for enabling implementation of emission upgrades.



12. The diagnostic tool of claim 10, wherein said user interface includes a hardware interface module port for enabling implementation of lab scope upgrades.

5 13. The diagnostic tool of claim 10, wherein said user interface includes a hardware

interface module port for enabling implementation of ignition upgrades.

14. The diagnostic tool of claim 10, wherein said user interface includes a hardware interface module port for enabling implementation of re-flash upgrades.

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15. The diagnostic tool of claim 10, wherein said user interface includes a hardware interface module port for enabling implementation of multi-meter upgrades.

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16. The diagnostic tool of claim 1, wherein said user interface includes an external power port for recharging an internal battery.

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17. The diagnostic tool of claim 1, wherein said user interface includes a 25-pin port used to connect a cable to a vehicle data link connector.

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18. The diagnostic tool according to claim 4, wherein said tool is capable of establishing a point to point link to the Internet.



- 5        19. The diagnostic tool according to claim 18, wherein at least one of diagnostic program upgrades and modifications to said tool is performed using a bulletin board system through a point-to-point protocol connection.
- 10      20. A method of remotely updating diagnostic application programs residing in at least one of internal and external memory of a portable diagnostic tool, said method comprising the steps of:  
displaying upgrade procedures after electronic access by a user;  
determining whether said diagnostic tool is valid for an update;  
determining whether a valid smart card is present; and  
providing user notification of the requested upgrade.

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